**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs, 14-18: **Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. Why are network standards required? They specify how computers access the network, the type of medium used, the speed of data transfer, and the types of cables or wireless supported.
2. What is a protocol? A protocol is a standard that defines how two computers or devices on a network transmit data.
3. What is the OSI? The OSI is a standard for network communications that define a model for using protocols in seven layers.

**Ethernet**

1. Describe the nature of Ethernet. The Ethernet is the standard networking technology, its rules specify how networking hardware must work, and also how networking software must work.
2. What are frames? Frames are intermediate nodes that contain packets of information.
3. Identify the 4 components of all Ethernet frames. The Node address, the sending node address, and some data, and Parity information.
4. Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or10Gbase-T. What are their respective maximum lengths and transfer rates? 85 m, 100mbps. 85 m, 10gps.

**TCP/IP**

1. Describe the nature of TCP/IP. TCP/IP is the protocol on which the internet is based, it is also the most common method of packaging information.
2. TCP/IP uses smaller packets than other protocols. Why is this a advantage on the internet? Smaller packets are an advantage as packets do not necessarily travel the same path.

**802.11 wireless standard**

**1** What does this standard do? This standard defines how two computers can communicate using radio waves.

2 What is a Wi-Fi network? A Wi-Fi network is a network that allows computers that are up to 50 meters apart to be connected without the use of wires.

3 Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11n standard? 802,11n transfer rate of 108 Mbps to 600 Mpbs & supports 70 metres Vs 50 mtrs of earlier versions.